IHC Medication Use
Collaborative Workshop

August 26, 2014
Brian J. Isetts, RPh, PhD, BCPS
Facilitator

100 E. Grand Ave., Ste. 360 • Des Moines, IA 50309-1800
Office: 515.283.9330 • Fax: 515.698.5130
www.ihcnonline.org

Your Facilitator:
Brian J. Isetts, RPh, PhD, BCPS
Professor, University of Minnesota
College of Pharmacy

Brian is a practitioner, educator and researcher. He recently returned from a three-year sabbatical serving as a Health Policy Fellow at the Centers for Medicare & Medicaid Services in the CMS Part D MTM Program and at the CMS Innovation Center.
Disclosures

Brian Isetts has no conflicts of interest to report relative to this workshop. I am currently serving as a medication use quality improvement advisor under contract with the IHC. The views, opinions and reflections expressed are solely my own, and do not represent the official position of any institution, agency or organization.

Our Goal Today

Workshop Session Goal

- Harness the abundance of knowledge and experiences here today to achieve medication effectiveness and safety aims that none of us could accomplish on our own
Session Objectives

• Review progress and successes of medication effectiveness and safety initiatives to date
• Describe key decisions, ideas, and strategies generating results, and,
• Accelerate collaborations to address challenges in designing a medication use system that citizens of Iowa deserve

This is Why We’re Here Today
IHC
Iowa Healthcare Collaborative

**Agenda Overview**

- **Segment 1**: Overview of Progress toward Building a Rational Medication Use System
- **Segment 2**: Experiencing the Journey Up Close and Personal in Rural and Urban Communities of Iowa
- Lunch Break (Noon – 1:00 p.m.)
- **Segment 3**: Solutions workshop that matches skills and experiences in the room to strategies for taming the demons that keep you up at night

---

**Our Work Today**

- Generate ideas & strategies to address challenges in medication effectiveness and safety
- Formulate testable solutions together
- Provide the IHC Medication Work Group with guidance on a statewide medication use strategy
- Have fun
Helping these colleagues so they can help us

IHC Medication Work Group
- Kate Gainer
- Emily Muehling
- Tom Evans
- Brian Isetts
- Tim Welty
- Jennifer Moulton
- Meg Nugent
- Rachael Digmann
- Anthony Pudlo
- Brian Benson

Progress toward Building a Rational Medication Use System
- Evidence of a dysfunctional medication use system
- Vision for a desirable system from the patients perspective
- Results from concerted national action to improve medication safety
- Initiatives to help patients achieve treatment goals and resolve drug therapy problems
Think-Pair-Share

1.) Interview the person sitting next to you and ask them, a) what excites them the most about a medication safety or effectiveness initiative they have heard about or are doing, and, b) why did they decide to invest in attending this workshop session?
2.) Each person will record the responses of their peer (see Worksheets at your Table).
What’s Wrong with the Medication Use “System” we have Now?

Drug-related Morbidity & Mortality-a National Crisis

- Spend $300 billion annually to fix the ineffective & unfortunate consequences of medication use
- Largest category of hospital acquired conditions
- Most common cause for hospital readmissions
- 3 categories of drugs related to over 70% of harms
- Approximately 10 people die every HOUR from preventable medication harms

So why has it taken so long to do something about this national crisis?

Characteristics of Medication Use

- Bad things happen to patients routinely
- Are considered a cost of doing business
- Patients don’t always know the intended medical use for each of their medications
- Don’t know the goals of therapy for their medications
- And we haven’t built systems around the way patients take medications at home
Reasons for Dysfunctional Medication Use

• Fee-for-Service (f-f-s) inadvertently rewards providers/organizations when drug therapies don't work or harm patients
• No one has stepped back and designed medication use systems from the patient perspective
• No one is responsible or accountable for what happens to patients when they take medications – that is, UNTIL NOW!

A Medication Use System we can Have and Deserve

Aims of a Rational Medication Use System from the Patient’s Perspective

• Patients routinely achieve their drug therapy treatment goals with zero tolerance for preventable medication harms
• Routinely: More than 90% of patients' treatment goals are being achieved
• Preventable: Between 44-60% of medication harms are preventable
Expectations of Team-based Medication Management in the Health System we Deserve

It is difficult to be an Accountable Care Organization (ACO) if you’re not accountable for what happens when patients take medications.

Medication Management Care Process

**ESTABLISH A THERAPEUTIC RELATIONSHIP**

**ASSESSMENT**
What does my patient want and need?

**CARE PLAN**
What am I going to do with & for my patient?

**EVALUATION**
How will we know if it is working?

*Continuous Follow-up*
Articulating Goals of Therapy

• Are established for each indication managed with drug therapy
• Are used to evaluate effectiveness and safety of drug therapy
• Collaboratively set with patients and care-givers
• Observable, measurable, realistic with time frames
• Aligned with patient preferences & motivating events
• Are abundantly more achievable when the patient knows you’re non-judgmental and in it for the long run as their life champion
• It’s the journey as much as the destination

Identifying Drug Therapy Problems

Drug therapy problems are undesirable events or risks that the patient experiences that inhibit or delay him/her from achieving the desired goals of therapy.

They are identified during the assessment process, so they can be resolved through individualized changes in the patient’s drug therapy regimens.
Comprehensive Team-based Medication Management

All team members help set patient-specific drug therapy goals for each medical condition:
- Assessment of intended use, effectiveness, safety, and adherence across the care continuum
- When patient is not achieving goals of therapy there is more efficient and effective use of pharmacists
- Coordination of care as we all work together to help patient achieve goals of therapy
- Patients/care-givers help team understand medication needs in patient-centered health homes

Outcomes of Comprehensive Team-based Medication Management

- Clinical outcomes: % of goals of therapy achieved ↑, improved care – ACO core measures of A1c, BP, LDL, etc.
- Humanistic outcomes: Quality of life, patient satisfaction, reduced sick days
- Economic outcomes: fewer hospitalizations; ↓ total cost of care; favorable return on investment (R.O.I.)
Indicators of Progress Towards the 3-part Aim in the U.S.

- Intra-/Inter-Gov’t Collaboration
- Reimbursement Reform
- Patient & Family Engagement
- Dynamic Systems Redesign
Engines for Redesigning Health Care Delivery & Financing

- Department of Health & Human Services collaboration (CMS, AHRQ, NIH, CDC, FDA, VA, IHS, HRSA, etc.)
- Nat’l Priorities Partnership convened by the National Quality Forum (NQF)
- Contracts, program agreements, grants
- Payment policies

Redesigned Health Care Financing is Good News for Patients who Take Medications

CMS describes the 4 payment categories:
- Fee-for-service (f-f-s), no links to quality
- Fee-for-service, linked to quality
- Quality incentives and shared savings built on F-F-S architecture (“fee-for-value”)
- Global, population-based payments

Evidence-based Medicine (EBM) and Rapid Cycle Quality Improvement

* EBM ideal for conceptually neat components of practice (tests, drugs, procedures)
* Not so good for crucial learning purposes to analyze how to do the right things right
* Statistical process control methods to test results of new care processes
* Ensures thorough & reliable systems of care

Rapid Cycle Quality Improvement

Plan-Do-Study-Act (P,D,S,A) Method
- Collaborative selection of high impact areas in need of improvement
- Use of iterative cycles for tests of change
- Report quantitative data - regular intervals
- Review of data as root causes analysis
- Seek to re-design systems, not fix people
Medicare FFS 30-Day All-Cause Readmission Rates -- Unprecedented National Decreases --

HHS Data Shows Major Strides Made in Patient Safety (May 7th)*

- 9% ↓ in hosp. harms; 8% ↓ readmissions
- ADE, falls, infections, VTE, Pr. ulcers
- 15,000 fewer deaths; 550,000 fewer harms; $4.1 billion in costs saved
- These rapid cycle quality improvement methods have now been moved into CMS as standard operating procedures

---

Preparing for Segment 2 of our Workshop Session

- Prepare to be amazed
- Understand how we’re getting results
- Realize that we can’t stop now
- Take a 4 minute break
- We will be hearing from colleagues at Cass County and UnityPoint when we get started in 5 minutes

Segment 2: What are we doing to get Results

- Concerted national action to reduce near-misses of high-impact medication harms
- Experiencing the journey in rural and urban communities of Iowa
- Focus on medication management across care transitions to reduce readmissions
- Forming action groups to influence the statewide medication use strategy
Partnership for Patients: Better Care, Lower Costs

Nationwide public-private partnership to tackle all forms of harm to patients. The aims:

40% Reduction in Preventable Hospital Acquired Conditions over three years
- 1.8 Million Fewer Injuries
- 60,000 Lives Saves

20% Reduction in 30-Day Readmissions in Three Years
- 1.6 Million Patients Recover Without Readmission

Potential to Save $35 Billion in Three Years

Adverse Drug Events Measured in the PfP HACs

- 34.2% of HACs measured in the PfP 2010 totals are as follows (MPSMS):
  - ADE Associated with Digoxin (12,000)
  - ADE with Insulin and Hypoglycemic Agents (930,000)
  - ADE Associated with IV Heparin (170,000)
  - ADE with LMW Heparin & Factor Xa Inhibitor (340,000)
  - ADE Associated with Warfarin (170,000)

- The ADE HACs in this measure set are 57 percent hypoglycemic agents, 42 percent anticoagulants
  - Opioid-related ADE not available in 2010 measure set
Relationship of Local Measures to National PfP ADE Measures

The Currency of Results

- Rapid cycle quality improvement to reduce high impact medication harms in real time
- Statistical Process Controls (run charts)
- Used to compare a hospital to itself over time
- 2,800 hospitals engaged in measurement
- Laser focus on rapidly decreasing numbers of patients with high INR, low glucose, & use of naloxone

The Medication Safety Journey of the Hospital Engagement Networks

- March 2012 there were 3 HENs and 200 hospitals engaged in medication safety
- April 2, 2012 Webinar framed the challenge and established a vision for the journey
- July 15, 2012 - 7 HENs took responsibility for meaningful measures in high-impact harms
- Today there are 2,800 hospitals in 24 HENs engaged in measurement/improvement
- Medication Safety Affinity Group pushing hard
### ADE Reporting by HEN: March 2014

<table>
<thead>
<tr>
<th>HEN</th>
<th>Antidepressant</th>
<th>Antipsychotic</th>
<th>Opioid</th>
<th>Summary ADEs</th>
<th>C. diff</th>
<th>Number of Target Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA</td>
<td><strong>✓</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MT</td>
<td><strong>✓</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arizona</td>
<td><strong>✓</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New York</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minnesota</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nevada</td>
<td><strong>✓</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NM/CA</td>
<td><strong>✓</strong></td>
<td><strong>✓</strong></td>
<td></td>
<td><strong>✓</strong></td>
<td></td>
<td>All 3 Target Areas</td>
</tr>
<tr>
<td>Colorado</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Georgia</td>
<td><strong>✓</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 Target Areas</td>
</tr>
<tr>
<td>Michigan</td>
<td><strong>✓</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Idaho</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utah</td>
<td><strong>✓</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pennsylvania</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 Target Area</td>
</tr>
<tr>
<td>OR/PA</td>
<td><strong>✓</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NH</td>
<td><strong>✓</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Texas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tennessee</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ohio Child's</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9 Target Areas</td>
</tr>
<tr>
<td>USA</td>
<td><strong>✓</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LA/PA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ohio</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>18</td>
<td>14</td>
<td>11</td>
<td>11</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

Source: HEN monthly reports, March 2014.

### ADE Reporting by HEN: June 2014

<table>
<thead>
<tr>
<th>HEN</th>
<th>Antidepressant</th>
<th>Antipsychotic</th>
<th>Opioid</th>
<th>Summary ADEs</th>
<th>C. diff</th>
<th>Number of Target Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA</td>
<td><strong>✓</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MT</td>
<td><strong>✓</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arizona</td>
<td><strong>✓</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New York</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minnesota</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nevada</td>
<td><strong>✓</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NM/CA</td>
<td><strong>✓</strong></td>
<td><strong>✓</strong></td>
<td></td>
<td><strong>✓</strong></td>
<td></td>
<td>All 3 Target Areas</td>
</tr>
<tr>
<td>Colorado</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Georgia</td>
<td><strong>✓</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2 Target Areas</td>
</tr>
<tr>
<td>Michigan</td>
<td><strong>✓</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Idaho</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utah</td>
<td><strong>✓</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pennsylvania</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR/PA</td>
<td><strong>✓</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NH</td>
<td><strong>✓</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Texas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tennessee</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ohio Child's</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9 Target Areas</td>
</tr>
<tr>
<td>USA</td>
<td><strong>✓</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LA/PA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ohio</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>23</td>
<td>23</td>
<td>23</td>
<td>23</td>
<td></td>
<td>12</td>
</tr>
</tbody>
</table>

Source: June 2014 HEN monthly reports

**RI** did not submit ADE data as of June 2014.
**Number of Hospital Working to Reduce ADEs, by Level of Engagement**

Source: HEN monthly reports, July 2014

**Partnership for Patients AHRQ National Scorecard**

**Preliminary Annual Rates of HACs for 2010-12**

<table>
<thead>
<tr>
<th>2010 HAC Rates (per 1,000 discharges)</th>
<th>2011 HAC Rates (per 1,000 discharges)</th>
<th>Preliminary 2012 HAC Rates (per 1,000 discharges)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Other HACs*</td>
<td>Venous Thromboembolisms (VTE)</td>
<td></td>
</tr>
<tr>
<td>145</td>
<td>27.3</td>
<td>25.6</td>
</tr>
<tr>
<td></td>
<td>Ventilator-Associated Pneumonias (VAP)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>40.3</td>
<td>40.4</td>
</tr>
<tr>
<td></td>
<td>Surgical Site Infections (SSI)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7.9</td>
<td>7.8</td>
</tr>
<tr>
<td></td>
<td>Pressure Ulcers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12.2</td>
<td>11.3</td>
</tr>
<tr>
<td></td>
<td>Obstetric Adverse Events*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>49.5</td>
<td>48.7</td>
</tr>
<tr>
<td></td>
<td>Falls</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7.9</td>
<td>7.8</td>
</tr>
<tr>
<td></td>
<td>Central Line-Associated Bloodstream</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Infections (CLABSI)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>27.3</td>
<td>26.7</td>
</tr>
<tr>
<td></td>
<td>Catheter-Associated Urinary Tract</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Infections (CAUTI)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.9</td>
<td>4.8</td>
</tr>
<tr>
<td></td>
<td>Adverse Drug Events (ADE)</td>
<td></td>
</tr>
</tbody>
</table>

*Preliminary 2012 PSI data is based on inputs from only 29 states.
Road Map to Medication Safety

NATIONAL ACTION PLAN FOR ADVERSE DRUG EVENT PREVENTION
Time for a little more Work in this Workshop (3 min./pair-share)

1.) Interview the person sitting next to you and ask them, a) what excites them the most about a medication safety or effectiveness initiative they have heard about or are doing, and, b) why did they decide to invest in attending this workshop session?
2.) Each person will record the responses of their peer (see Worksheets at your Table).

Summary of Key Decisions and Actions

- The Will, Ideas, and Execution Strategy:
- Consensus on the use of an airline safety strategy of measuring and reducing near misses of high impact medication harms
- Alignment of near miss measures with national ADE measures
- Concerted action to measure near misses
- Relentless reflection of run charts
Reflections on Progress in Iowa

- Anticoagulation safety
- Hypoglycemia safety
- Opioids safety

IHC Anticoagulation Safety
[Baseline n=12, to n=81 hospitals reporting in Mar. 2014]
(174 INR>5/8,829 INR measurements)

OY1 - Documented INRs Greater than 5 for Patients on Warfarin

[Graph showing data over time]
IHC Hypoglycemia Safety
[Baseline n=33, to n=66 hospitals in Mar. 2014]
(496/60,599 measurements – 3/2014)

IHC Opioid Safety
[n= 40 hospitals; 71 Narcan doses/27,905 Opioids administered]
Crystal Starlin Introduction

- Director of Pharmacy - Cass County Health System, Atlantic
- Critical Access Hospital
  - 4 Bed Inpatient Behavior Health Unit
  - Average Daily Census: 11.6
  - Meditech operating system
    - Awarded HIMSS Stage 6 in 2013
    - (EHR/CPOE June 2012, CPOE in ED March 2013, eMAR/BMV 2009)
  - Employees: 251 FT/82 PT
  - 7 Physicians, 1 OB-GYN, 1 Surgeon
  - 2 Full time Pharmacists
  - Pharmacy dept. hours: Mon-Fri 7-5/Sat-Sun 7-3
Cass County Health System:
Reduce/Eliminate ADE Focus: INR >5

The Journey
- August 2012
  • Data collection – basic info
  • eMAR/BMV/CPOE/EHR – included an Associated Data screen for Nursing to see last PT/INR
- 2013
  • Data collection – began including cause/analysis on INRs > 5
  • Discussions at quarterly P4P meetings, needed a better monitoring system in place
    – How can we increase communication with providers?
    – How can we better track patients on warfarin?

Cass County Health System:
Reduce/Eliminate ADE Focus: INR >5

- October-November 2013
  • Tasked pharmacy student to develop monitoring form
    • (University of Iowa, Drake University, Creighton University)
  • Electronic notices were being sent to physicians when patients noted to be on medications interacting with warfarin
- February 2014
  • Request to Medical Staff and approved to change critical value of INR’s from 5.0 to 4.0
- March 2014
  • Patient care conferences (Monday-Friday) instituted (interdisciplinary huddles)
Cass County Health System: Reduce/Eliminate ADE Focus: INR >5

- August 2014
  - Challenges identified:
    - Swing patients
    - INR orders not frequent enough, sometimes no baseline
    - Nursing Home patients admitted with high INR’s (antibiotics started prior to ED visit)

Cass County Health System: Reduce/Eliminate ADE Focus: INR >5

- August 2014
  - Solutions/Changes to Processes
    - P&T Committee – INR Automatic Order Protocol
      » baseline and every other day on all Warfarin patients
    - Warfarin Monitoring Form – incorporated Patient Care Conference and Warfarin Monitoring forms together
Cass County Health System: 
Reduce/Eliminate ADE Focus: INR >5

Process and Systems Management - Tools & Resources to Improve Safety

• Warfarin Management Form

• Pharmacotherapy Monitoring Form

Brian Benson
UnityPoint Health System

• Executive Director of Pharmacy – UnityPoint Des Moines

• Blank Children’s, IMMC, ILH, and Methodist West

• About us in Des Moines:
  ➢ 779 Beds, 1033 Physicians, 1,400 Nurses and 87 Pharmacists
  ➢ 32,563 admissions, 22,674 surgeries and 83,753 ER visits
The UnityPoint Journey

- National patient safety goals 2007-08 anticoagulants
- We didn’t know what we didn’t know
  - Think we are doing well, hear about the “bad” events on occasion but on autopilot.
- Policy and collaborative practice agreements developed.
  - Pharmacy to manage warfarin patients
  - Warfarin dosing protocol
- Pharmacy and Therapeutics Committee/Med Exec approved.
UnityPoint INR Successes – Policy Highlights

• Required rationale and target INR
• Must have baseline PT/INR and hemoglobin
  – Hgb at least every three days.
  – Daily INR exception – stable patients; at least twice weekly.
  – INR must be obtained before daily dose

UnityPoint INR Successes – Policy Highlights

• One time orders or dosing parameters based on INR result.
  – warfarin 3 mg orally today
  – Warfarin 4 mg each day. Hold if INR >3 and call physician
  – Warfarin 5 mg tomorrow if INR < 2; 3 mg if INR 2-3.
• Missing elements of order or no INR, physician contacted
UnityPoint INR EMR tools

- Epic EMR (2012 - present)
  - Missing placeholder
  - Anticoagulation folder
- iVents and consults
  - Pharmacy to dose linked to warfarin orders
  - iVents – intervention communication tools
  - Best practice alerts for physicians

UnityPoint INR Challenges

- Dosing guidelines versus protocol
  - Pharmacy tends to be black and white
- Warfarin effects not instantaneous
  - Ability to trend a bit of a challenge
  - New EMR or Clinical decision support tools to help.
- INR range – some physicians not accepting of approved dosing ranges
- Communication and education
UnityPoint – Naloxone

- Order set development probably the biggest contributor to improvement
  - Epidural, PCA, PCEA, tiered pain order sets
    - Standard PCA or epidural types and concentration
  - ISMP Guidelines for Standard Order Sets
- Prior to order sets – had to remember dosing, rates, adjustment parameters, type.
- Removal of Meperidine PCA?
**UnityPoint – Naloxone**

- Smart Pump technology
  - Upper and lower administration rates
  - Prevented errors in programming pumps
  - Bar Code technology – recognize type of PCA (morphine, hydromorphone or fentanyl).
- EMR
  - Administration rates clearer
  - Monitoring parameters readily available to nurse
    - Respiration rate (less than 10)

**UnityPoint – Naloxone**

- Root Cause analysis
  - Why did patient require naloxone
  - PCA by proxy – family member dosing
  - Education to staff and family members
- Adverse event review at P+T and Quality meetings
- Separate “drug libraries” for Adults and Peds in the infusion pump world.
UnityPoint – Naloxone

• Infusion Pump programming examples
  – Fentanyl epidural – 2 mcg/ml @ 7 mL/hr
    • Resp rate every hour
  – PCA order set include appropriate rates
    • Hydromorphone 0.2 mg/mL - Loading dose – 0.3 – 0.4 mg; PCA dose lower and upper – 0.3 – 0.4 mg; Cont. rate – 0.2-0.3; dose limits – 2 – 2.4 mg per hour.
    • Recommended dosing loading, PCA, Lockout and maximum/24 hours.

UnityPoint - Naloxone

• Future – EMR interface with smart pumps
  – Verify settings - no “programming”
• Not just for opioid infusions
  – Cardiac infusions
  – Anticoagulants (heparin, argatroban)
  – Vasoactives
UnityPoint - Glucose

- Order sets constructed around best practice
- “DC all” previous glycemic management orders.
  - Resets the patient, removed duplicate/additive therapy.
- Sliding Scale – move to basal bolus dosing
  - Long acting with short acting post meals

UnityPoint - Glucose

- If blood glucose <70 or symptoms of hypoglycemia then – initiate hypoglycemia protocol.
- Recent data opened dialogue with CDEs to see if we have room to get better.
- Don’t know what we don’t know 😊
- Fast Facts sheet
Basal and Bolus Insulin Dosing mimics normal pancreatic insulin release. It is proactive and less likely to cause hypoglycemia than sliding scale.

Definitions:
- **Basal Dose** (background) – long acting insulin to cover the 24 hour demand for insulin, such as glargine (Lantus) or NPH
- **Bolus Dose** (mealtime) – short or rapid acting insulin to cover spikes in blood glucose from eating, such as aspart (NovoLog)
- **Correction Dose** – insulin given to correct for blood glucose levels above the target range when the basal and bolus doses are underestimated; this is NOT sliding scale
- **Patients with Type 1 Diabetes** – require insulin to prevent ketosis, even if they are NPO and are more insulin sensitive
- **Patients with Type 2 Diabetes** – can have normal insulin sensitivity or be highly insulin resistant; may need high insulin doses when ill

Treatment Goals:
- Critical Care Unit – 90 to 160 mg/dl or as individualized
- Other Clinical Units – <140 mg/dl premeal, and always less than 180 mg/dl or as individualized

Initiate Hypoglycemic Management order set

Remember
- Basal insulin is given at the same time each day; basal insulin should not be held.
- Bolus insulin (short acting, bolus, or mealtime) is given right before eating or at the end of the meal.
- Insulin for the bolus and correction is the same type of insulin and should be given as one dose.
- Blood glucose testing should be done no more than 30 minutes before a meal.
- If the patient does not take nutrition,
  - Continue to give the basal insulin
  - Hold the bolus (mealtime) insulin and call the doctor
- Insulin orders should be reviewed daily in response to the previous day’s trends.
- Our goal is to avoid hypoglycemia and prevent under treatment of hyperglycemia.
All-teach All-learn Segment
(4 min./pair-share)

1.) Interview the person sitting next to you and ask them:
   a) Tell us what you liked best about the manner in which your peers addressed challenges and achieved results, and,
   b) What information in these case studies will you use to improve care?

2.) Each person will record the responses of their peer (see Worksheets at your Table).

Iowa Medication Use Improvement Strategy

- Framing the afternoon session based on work and progress to date of the IHC Medication Use Work Group

- Background Document: Iowa Medication Safety Strategy
Framing our Work in the Afternoon Workshop

1.) At your table working alone, write down the 2 or 3 challenges or barriers that you would like to see addressed to develop a medication use system that citizens of Iowa deserve.

2.) Record your responses so we can organize our afternoon Work Groups (see Worksheets at your Table).

Lunch Break
The purpose of this afternoon’s small group workshop sessions are to match skills and experiences in the room to strategies for taming the demons that keep you up at night.

We have built the small group topics based on your suggestions and input from this morning.

Please select a table corresponding with one of the demons that keeps you up at night.

Use the Worksheets at your Table to frame the challenge, and to describe ideas and strategies for action.

DEADLINE = 20 Minutes (yes, today)

REPORT From Each Small Group Table

Offers

Commitments

Aims
Discussion

Thank You